

THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

NEW SERIES.]

THURSDAY, JUNE 13, 1872.

[VOL. IX.—No. 24.

Original Communications.

A METHOD OF DISCOVERING AND CORRECTING ASTIGMATISM.

BY CYRUS H. FARLEY, Portland.

EVERY one who has investigated that class of deformities of the eye known as "anomalies of refraction," understands perfectly the nature of astigmatism. My purpose is not to present any new definition or theory, but to consider the mechanical means of discovering, measuring and correcting the defect. A brief explanation seems nevertheless to be a necessary preliminary to the discussion.

Astigmatism, then, results from an irregular curvature in the different meridians of the cornea. The normal eye may be regarded as a perfect sphere, and rays of light, as they enter the pupil, are bent inward uniformly by the curved surface of the cornea and crystalline lens, so that they meet at the retina on the opposite side. The rays coming to a focus at this point, produce a distinct image of whatever is before the eye. If we should move the retina forward or backward, the image would be dimmed or lost. The retina then must be exactly at the focal point, or what is equivalent, the focal point must be made to impinge upon the retina, to ensure distinctness of vision. A myopic eye is one in which the retina is too far back, so that parallel rays are brought to a focus in front of it. We are obliged to place before such an eye a concave glass that throws the rays outward, making them strike and pass into the eye at such an angle as will bring them to a focus on the retina. In the hypermetropic eye, on the other hand, the retina is too far forward, and the focal point behind it. The rays here pass into the eye too directly, and we use a convex glass to bend them inward and they bring the focal point forward to the retina.

In astigmatism, the trouble lies in the cornea. In simple astigmatism, a part of

the cornea occupies its proper position in relation to the retina, and a part does not, being too near or too distant; in other words, one meridian is myopic or hypermetropic, while the other is normal. Such a cornea, instead of having a spherical surface, like a segment cut from the periphery of a ball, has a cylindrical one, like the segment of a barrel cut longitudinally. Of course, such an irregular cornea cannot refract light equally in all meridians, and the consequence is that a blurred, indistinct image is formed.

Now in all cases of congenital astigmatism that can be fully remedied, the normal and abnormal meridians, or the meridians of greatest and least curvature, stand at right angles to each other. The rays of light, then, which pass through the normal (or nearest normal) meridian of an eye will give greater distinctness than those which pass through the abnormal meridians, and in order to ascertain if any meridians are abnormal or different from the others, black lines have been adopted as the best test.

Some of these lines, called "test circles," are arranged like the spokes of a wheel, so as to show at once which spokes coincide with the normal meridians. This figure is objectionable, because the difference between the darkest and lightest lines cannot be well defined, the intermediate lines shading away by imperceptible degrees and destroying the contrast between the extremes. I have frequently tried this test on cases previously examined and measured, and have found it to be altogether unreliable.

There is another and greater objection, which applies equally to all the ordinary devices for effecting the same object; the lines are too small. In measuring any deformity of the cornea, it is necessary that the object viewed should be at least twenty feet distant, so that the crystalline lens shall be kept perfectly flat. If the object is brought nearer, the accommodative power of the lens will neutralize any slight irregularity of the cornea, especially if the abnormal meridian is hypermetropic. But at a distance of twenty feet, the width of the

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test-lines, like that of the test-types, subtends an angle of one minute only; and while a line whose width is one minute, is visible, it is not, at the same time, distinct enough for this purpose. A series of such lines, separated by spaces of the same width, become so confused and indistinct, when held at a distance of twenty feet, that it is difficult to count them.

I have experimented a great deal on this point, and am fully convinced that in these faulty test-objects is to be found the chief reason why so many have failed to detect astigmatism where it really exists, and, as a consequence, have concluded that it is a rare deformity.

My experiments have resulted in the adoption of the following simple test-objects. I have three vertical and three horizontal lines, the latter placed above the vertical lines so that the combination resembles the letter T. These lines (which should be drawn with India ink, laid on very thick) have a diameter of four minutes at twenty feet, and are separated by spaces of the same width. Their length is four inches, though this is a matter of less consequence. The card is placed upon a stand, so that it can be placed at any angle desired, as shown in the illustration. The position is found which exhibits the greatest difference of shade between the two series

of lines, and the inclination of the card indicates the inclination of the meridians of astigmatism. In all cases of astigmatism which can be relieved by cylindrical glasses, the meridians of least and greatest curvature stand at right angles to each other, and hence these lines running only at right angles exhibit the darkest and lightest shades exclusively, and bring them close together for contrast.

The necessity of placing the lines at a distance of twenty feet has already been indicated. The limit to the accommodative power of the crystalline lens can easily be verified by experiment. It will be found

that an emmetropic eye can see much better at a distance of 20 feet through a concave glass than through a convex glass of the same power. A No. 30 concave glass will not interfere seriously with the sight at this distance, while a convex glass of the same power will obstruct it to a marked degree, showing that the lens has no power of contraction more than is required for accommodating the sight for twenty feet. When, therefore, the eye is obliged to look at an object twenty feet distant, the lens becomes flat and reveals any existing inequality of the cornea.

The process of examining an eye for astigmatism is as follows: Covering one eye by putting on the trial-frames containing a circular metal plate, we direct the patient to read the large test-types at thirty feet. He will say, perhaps, he can read P. T. S. R. (Snellen's fifty-foot type.) We try to improve the vision by placing before the eye concave and convex glasses successively, but all make the sight worse rather than better. We now direct his attention to the lines (at twenty feet), and ask him which of the series of lines is the darkest, the horizontal or the vertical. If he says there is no difference, we may be sure there is no astigmatism. But if he says, for instance, the horizontal ones are very black, and the perpendicular ones lighter, and the spaces between not so white, we know that astigmatism exists. Turn the card vertically, inclining the vertical lines to the right and left, to see if any greater difference in the shade is observed. When we have obtained the greatest contrast, we have determined the angle of the astigmatic meridians.

The next step is to measure the degree. Let us bear in mind that the horizontal lines were most distinct. Taking a No. 30 convex glass and holding it before the eye, we ask if it brings out the vertical lines more distinctly. If the patient says no, we are on the wrong track. So we take a concave glass of the same number, and place that before the eye. He says the vertical lines are more distinct, but not perfectly so. We have got now upon the trail, and we try one glass after another until we get one that makes the vertical lines as distinct as the horizontal ones were before. But in bringing out the vertical lines, we have obscured the horizontal ones; in fact, we have just reversed the condition and appearance of things. Having obtained the power of the glass which effects this reversal, we know at once the degree of the minus cylindrical glass which,



held with its axis vertical, will neutralize the astigmatism. When all the meridians of the eye are abnormal (in one direction), those least so should be corrected by spherical glasses before we proceed to search for or correct the astigmatism. I do not approve the advice given by some writers, that when in the same eye one meridian is hypermetropic and the other myopic, the first should be remedied by a convex cylindrical glass and the other by a concave cylindrical. The hypermetropic meridian may be remedied quite as well by a spherical convex glass, and all the cylindrical curvature needed be added to the other side of the glass. This course becomes imperative if presbyopia exists, but I prefer it in all cases, as being more simple and reliable, and less expensive.

An eye which lacks acuteness in reading the test-types at the prescribed distance, though it may observe no difference in the shade of the test-lines, cannot be pronounced free from astigmatism until it has been tried with a convex lens of light power, lest the abnormal meridian be hypermetropic, and the accommodative power of the crystalline lens conceal the deformity. Yet any degree of astigmatism that would not show itself without this test, could not be very troublesome, and would not absolutely need correction. It becomes necessary sometimes to alter the axis of cylindrical glasses, so as to change the range of vision from the horizontal to the vertical and *vice versa*. Suppose a case of astigmatism, in which the vertical meridians are myopic. This must be corrected by a cylindrical glass with its axis horizontal. The eye has under these circumstances only a lateral range of vision, and when it is directed to an object above the head, or dropped below as upon a book or paper, the proper coincidence of meridians is disturbed, and distinct vision is lost. To correct this difficulty I have made the abnormal meridians of the eye the base, using a convex cylindrical with vertical axis, and then correcting the myopia which now exists in all meridians by a spherical concave. This gives the eye vertical range, though it diminishes the lateral range, but is much more convenient for reading or writing, as the eye can be moved naturally up and down in its socket, without destroying vision, while in the other case it must remain rigid, and the head must be bent forward or backward as necessity requires. In some cases, however (depending upon the form of the face), it will answer as well to have spectacle bows made with a joint in the

shank, close to the frame, so that the glasses can be turned under the eye. I have arranged them in this way for draughtsmen, and others whose work obliges them to drop their eyes below the horizontal range.

All that I have said up to this point, I regard as essential to a clear understanding and accurate diagnosis of astigmatism. I will only suggest some apparatus which will be found convenient, but not absolutely necessary. Above the test-lines should be placed a semi-circle, marked with its 180 degrees, and having the extremes of the arc exactly opposite the middle horizontal line. Pointers should project from each end of the central horizontal line and from the top of the central vertical line upon the graduated arc, so that when the card is turned, the pointers will show the angle of inclination. The reason for having pointers for both series of lines is that we should be governed by the lines of least distinctness, for these should coincide with the axis of the glass, which is always marked. By determining, therefore, the exact angle of the meridians, we can place the cylindrical glass in the trial-frames at once, with its axis at the proper elevation.

Thus briefly have I endeavored to describe the devices for ascertaining the presence and extent and the proper correction of astigmatism, without using any of those elaborate illustrations whereby some writers have, I think, needlessly complicated the subject. I shall not expect any views of mine, which differ from the great authorities on this subject, to be adopted without first being put to a practical test, but I am convinced that if the rules here prescribed are followed, no case of actual astigmatism will escape detection.

Perhaps those who are constantly looking for a particular thing will most frequently discover it. I have found astigmatism to be exceedingly common, and by pursuing the method here suggested, have resolved many cases into this deformity, which had previously passed under the vague denomination of amblyopia or amaurosis.

Portland, March 5, 1872.

LADY DENTISTS.—The German papers state that a young lady recently presented herself at the Faculty of Medicine at Munich for examination for a license to practise as dentist, and, being refused, she went to Erlangen, and passed successfully.

A CASE OF GUN-SHOT FRACTURE OF THE FEMUR.

By H. W. SAWTELLE, M.D., Washington, D. C.

CORPORAL E. G. A., 4th Indiana Battery, at 25 years, a healthy, robust man, was wounded at the battle of Stone River, Tenn., Dec. 31st, 1862, by a conoidal ball, which entered the left thigh, anteriorly, about four inches below the great trochanter, and, fracturing the femur, passed backward, making its exit about one inch below the gluteal fold. He remained on the field nine days (part of the time a prisoner), and subsequently he was in a hospital at Murfreesboro', Tenn., about four months; but the patient states that neither splints nor extension were ever applied to the limb.

He was discharged the service April 14, 1863, and pensioned. On September 1, 1863, the external wounds had healed, there still being, however, some tenderness at the point of fracture, and also about two inches shortening. As he further improved and began to use the limb with less care, he observed that it would rotate; and in January, 1871, he was able to shorten the distance between the knee and trochanter six inches, by means of a sudden swinging and extending motion of the limb, which appeared to throw the lower fragment to one side, followed by voluntary contraction of the muscles. In this position he was able to support his weight, 140 pounds, on the limb, and extend the same again to its former position by a sudden extension, or, as he described it, "a wriggle." In either of these mal-positions the thigh remained firm and inflexible. The patient was able to evert the left foot so as to place the heel at the toe of the right, thus placing the outer margin of the left foot in apposition with the inner margin of its fellow—these movements being accomplished without disturbing or moving the trochanter. The lower shaft of the femur appeared to slide along on the upper fragment on the anterior internal surface.

The upper and middle thirds of the thigh exceeded in circumference the corresponding portions of its fellow one inch, which is doubtless due to a large ensheathing callus which surrounded the lower part of the upper third of the femur, and which was distinctly recognized by digital examination. He walked with only a slight irregularity of step, but with great care. The patient stated that the limb was often painful, and that frequently he was obliged to suspend business, that of a laborer. During the winter of 1869, he was unable to

walk without pain, and could not pull on his boot. I am inclined to believe, from what I learned of this man, that the great proficiency acquired of performing the marvellous contortions described, was the result of long-continued manipulation of the limb.

Washington, D. C., April 3, 1872.

A CASE OF BELLADONNA POISONING.

By CHAS. W. PARSONS, M.D., Providence, R. I.

A boy, aged 4 years, took, within an hour and three quarters, six grains of extract of belladonna by mistake for extract of lobelia, which had been recommended for croup. The doses were taken as follows: at 11 o'clock, A.M., 1 grain; at 11.15, 1 grain; then, as that did not produce the expected emetic effect, 2 grains were given at 12; and 2 grains again at 12.45. About 12.30, or before the last dose was given, some effort at vomiting ensued. Immediately after the last dose, belladonna symptoms came on suddenly, viz., stupor, swelling around the throat and jaws, great flushing of the face, and dilated pupil. The flushing extended to and even above the roots of the hair on the frontal region. It was difficult to rouse the child; he stared when awakened, and was hard to control, which I was told was not usual with him.

I first saw him at 1.45, P.M., an hour after the last dose had been given. His condition was as just described. He made wild resistance to anything done for him; if left quiet went off soon into a stupor. The heart was acting violently, beating hard, and more than 144 in the minute. Emetics of sulphate of zinc and ipecac were given with difficulty, and he vomited sparingly; no extract of belladonna was recognized in the matters vomited. Mustard was applied to the back and over the stomach; and he was kept from going asleep by walking him between two persons. The lips were dry, but there was no complaint of dry throat, nor any obvious difficulty in swallowing. The legs bent under him, so that he had to be held up to keep him erect.

In about an hour the symptoms had somewhat lessened; he kept awake a little longer, and I left him to procure my magnetic battery. On returning, a little after 3 o'clock, he could stand alone for a few moments, was very sleepy, and dropped off if left alone. He had illusions; saw visions on the floor, and talked nonsense. The pulse was 132. About this time he passed less than an ounce of dark-colored urine.

Through the afternoon he still had illusions; made queer grimaces; and his movements were tremulous and jerky. Little complaint of dry throat throughout.

At 6, P.M., pulse 112; has had no desire for food; mind still confused; some difficulty in micturition.

He was restless in the night, and saw strange visions, but recovered. Soon went to Maine, where, in a month after, he died of membranous croup.

Selected Papers.

ON THE TREATMENT OF DIABETES BY LACTIC ACID (CANTANI'S METHOD).

By GEORGE WILLIAM BALFOUR, M.D., F.R.C.P.E., Physician to the Royal Infirmary, Edinburgh.

TOWARDS the end of the last century (1796), John Rollo first propounded the theory that diabetes mellitus consisted essentially in some morbid change in the functions of digestion and assimilation, and conceived the idea of remedying this abnormal condition by cutting off from the food the supply of starchly matter from which he believed the sugar to be chiefly formed, employing also emetics, narcotics and tonics. Rollo thus laid the foundation of that system of treating diabetes which still prevails, which, mainly dietetic, consists also largely in the administration of tonics and narcotics. In France, this theory and treatment were adopted by M. Bouchardat (1841), who further showed that, for the complete conversion of starch into sugar, from seven to eight times its weight of water is required; thus accounting for the terrible and irresistible thirst of diabetic patients wholly irrespective of their excessive urination, which may be regarded as produced by the excessive ingestion of fluids rather than as its result.

The more important variations in the dietetic treatment of diabetes in recent times have been—1st. The use of alkalies, chiefly the carbonated alkalies, which is based upon Mialhe's theory (1843), that the sugar formed from the starchy articles of food in a healthy body is destroyed by the natural alkalinity of the blood, a property he supposed to be defective in diabetic patients. This theory has been shown to be wrong in every point, yet the treatment founded upon it has had a considerable amount of success. 2d. We have Reynoso's theory (1853), that the sugar in the blood of a

healthy subject is burned in the lungs, and that it only appeared in the urine because of defective respiration; he therefore recommended a stimulating plan of treatment to increase the respiratory function; and the employment of the peroxide of hydrogen in modern times, as well as that of the permanganate of potass, is based upon this view of the origin of diabetes, which, although accurate enough in the fact that sugar does frequently appear in the urine of those whose respiration is impeded, is yet in so far defective that the development of grape-sugar into lactic acid, the first stage of its combustion, requires no oxygen. 3d. Claude Bernard's remarkable experiments (1848)—which seemed to prove the nervous origin of this disease, but which Schiff showed could not act without a liver, and acted mainly, apparently, by producing hyperæmia of that organ—gave a considerable impulse to the use of narcotics and nerve sedatives, especially such as opium, codeia and bromide of potassium, which so act upon the vaso-motor nerves as to reduce hyperæmia, all of which give considerable relief, and have had a certain amount of success. 4th. We have a modern return to the more purely dietetic treatment of diabetes in the employment of skim-milk as the sole article of food, a method of treatment which has been extolled by Dr. Donkin, of Sutherland.

Now, without entering more at large into the pathology of diabetes, it is obvious that these various modes of treating it are all underlain by one common fact, viz., that in diabetes the natural glycogenic function is discharged in a morbid manner, and that this morbid discharge of function may be importantly modified in two modes: 1st, by depriving the organism of that pabulum from which the glucose is mainly derived; and, 2d, by employing such remedies as are capable of altering the nervous energy of the organs at fault: practically it has been hitherto found of importance to conjoin these two methods.

The chemical treatment of diabetes by the attempted burning of the sugar by artificially induced hyperoxygenation of the blood, has not been found more successful than the simple dietetic plan without this addition, and for the chemical reason stated this could not be otherwise. While the basis of the other chemical treatment, that by alkalies, has been shown to be erroneous, the blood of diabetic patients being not less alkaline than that of others on the one hand, while, on the other, a fluid even more alkaline than the blood cannot decom-

pose glucose, so that, if the alkaline treatment have really proved more successful than the simple dietetic plan, that must have depended on its exercising some modifying power over the function at fault—a modifying power, however, of so doubtful a character that it has not been able to prevent this method of treatment from falling, in this country at least, into comparative desuetude.

It is a matter of daily observation, that morbid alterations of function are frequently only to be permanently remedied by a restoration of the body to its normal standard, the great difficulty of promoting a cure in such cases being the impossibility of giving perfect rest to one organ while endeavoring to build up the frame, the skill of the physician being shown by the manner in which he solves this complicated problem, giving as much rest as possible to the organ at fault, while at the same time improving the general nutrition, and thus restoring the healthy tone to the constitution. It is in this respect that all the treatments hitherto propounded for diabetes have failed; they may have given rest to the organ at fault, but they have too often depressed the general health, and, while giving temporary relief, have possibly in many cases hastened the end; and even when a tonic treatment has been mainly relied on, it has failed for want of physiological adaptation. It is in this respect that Cantani's treatment is preëminently useful; it relieves without depressing, it gives as nearly as possible perfect rest to the organ at fault, and at the same time builds up the body by an artificial adaptation of physiological means, and restores the healthy tone to the constitution, thus enabling it to return to healthy action. It is by no means put forth as a perfect cure for all cases of diabetes; it is a means of relief to all, but only a cure for some; yet it seems to act curatively in a larger proportion of cases than any other mode of treatment hitherto devised, while the relief to all is more perfect.

Prof. Alnaldo Cantani, of Naples, agrees so far with Reynoso in believing that in diabetes the question is not so much one of increased production of sugar as of defective combustion; this he conceives to be proved by the small number of respirations made by diabetic patients and by their average low temperature, ranging, according to him, from 95° to 96°.8 F. in uncomplicated cases; the temperature, of course, rising with any complication—such as tuberculosis—giving rise to pyrexia, but al-

ways remaining below the normal of such pyrexia. This defective combustion he believes to depend upon the production of a morbid form of glucose, which he has termed *paraglucose*; this is incapable of being transformed into lactic acid, and therefore cannot be burned; it is consequently passed unchanged in the urine. The result of this is, that the sugar and starch of the food being transformed into this incombustible paraglucose, the heat of the body is in so far maintained at the expense of the albuminates and fats, and from the combustion of the former we have that excess of urea which adds so greatly to the density in many cases of diabetes, while, as the albuminates and fats which the patient receives as food are insufficient for his requirements, those of his own tissues are also employed, and hence his rapid emaciation.

In the early stages of diabetes the quantity of sugar passed in the urine oscillates with the diet, and with an exclusively animal diet is much lessened in twenty-four hours, and may entirely disappear in a few days; in the latter stages, when sugar persists in the urine even after the withdrawal of all amylaceous food, Cantani believes that not only the inosite of the muscles may be transformed into paraglucose, but also that the gelatinous tissues, which Baedeker succeeded in transforming into sugar apart from the system, may in this abnormal pathological condition become transformed into paraglucose, and thus account for the persistence of sugar in the urine of those fed exclusively on an animal diet, apart altogether from the question of the albuminates themselves being transformed into diabetic sugar. Thus, though all diabetics are to a certain extent autophagic, we may yet have this abnormality developed to excess, and may thus have three steps in this disease: first, that in which the sugar oscillates with the quantity of amylaceous food supplied; second, that in which the inosite and gelatinous matter of the animal food are transformed into diabetic sugar; and, third, when not only these but also the inosite and gelatinous matters of the body of the patient himself are so transformed—a most severe and hopeless form of autophagia. Cantani, with most modern pathologists, recognizes the liver as the organ mostly at fault in these cases; but whatever the organ may be, he proposes to give it as complete a rest as possible, by depriving it of its pabulum in subjecting the patient to a rigorous meat diet, thus reducing to a minimum the

introduction into the system of the sugar-producing substances. But as that is only a temporary expedient, having reference to only one element of this disease, and incapable of arresting the waste and ultimate complete degradation of the body, he further proposes to prevent this waste by supplying a combustible agent in a quantity sufficient for the wants of the body, so that the fats and albuminates may continue to be stored, and the body thus gradually restored to its normal standard; and he hopes that this restoration of the healthy standard of the constitution, coupled with the prolonged functional rest to the organ affected, may suffice to prevent any relapse into its morbid condition, even after a return to the ordinary dietetic conditions of modern civilized life. The results of Cantani's experiments have to a large extent proved the correctness of his views. The combustible agent which Cantani has selected is lactic acid, and it has been wisely chosen, inasmuch as it is in all probability that agent employed in the normal conditions of nutrition, representing as it does the intermediate stage between glucose and carbonic acid,* so that not only is a complete rest given to the organ at fault, but that very agent is supplied to the system which would have been normally present had the organ at fault been doing its duty after a normal fashion; so that, while as complete a relief as possible is afforded to the organ at fault, there is in no respect any abnormal strain put upon the system. The organ at fault is for the time being merely thrown out of gear, but all the other functions proceed in a natural manner, so that, when the normal tone of the organ has been reacquired, it may again be replaced in the natural cycle without the harmony of the natural sequence of the functions being in any way interrupted either by the cessation or the restoration of its function. The quantity of lactic acid which Cantani administers is from 77 to 154 grains daily, diluted in from 8 to 10 fluid ounces of water, and taken during the day. His exclusively meat diet means rigorously one of plain meat, roast or boiled, without any sauces of milk or eggs, and certainly without any bread, flour, or any vegetable matter whatever, the only seasoning permitted being salt, oil, and a little vinegar. For drink he allows water, either plain or with a little of the purest alcohol; coffee, tea, and wine being prohibited. His results

have been somewhat surprising. In recent cases the cure is stated to be almost certain and speedy; and even where an exclusively meat diet is not persisted in, life is apparently prolonged, and many of the unfavorable results of diabetes are prevented, though the mellitaria is not arrested. Dr. Sammut, of Naples, from whose report I quote,† states that he has seen an army lieutenant enter the hospital emaciated, weak, and impotent, with polyuria, thirst, and extraordinary hunger. In twelve days the last trace of sugar had disappeared from the urine, and in six weeks the patient had gained nine pounds. He left the hospital in excellent condition—florid, strong, without thirst or hunger; he continued the treatment for two months more at home, and then resumed mixed diet, and after the lapse of eight months he was in excellent health, and weighed twenty-one pounds more than when he entered the hospital, being also without a trace of sugar in the urine, though eating indiscriminately of all that came before him. A tailor from Naples was admitted in a desperate condition. He left florid and robust. Since then, for more than seven months, he has been eating promiscuously, and is more fat, rubicund, vigorous and energetic than before his attack. Dr. Sammut also states that he saw in Cantani's clinique several other diabetics—he mentions five—all much improved, and several believing themselves to be perfectly cured.

These results are certainly very remarkable, and, being a continuous series following the employment of a treatment based on rational considerations, are sufficient to claim the attention of every medical man interested in the progress of therapeutics. And I may remark that the latest treatment of diabetes propounded in this country—that by skin-milk—bears out Cantani's views in so far that it is a strictly animal diet, free from amylaceous matter, and containing three to six per cent. of lactin, which, under the influence of the caseous matter, becomes transformed into lactic acid. This treatment is therefore an approach, but a very meagre one, to Cantani's apparently more perfect system; and I may add that the results of the two systems in my own practice have fully convinced me of the greater applicability and more perfect success, so far as time allows me to judge, of Cantani's method.

This treatment is simple, physiological, and its results are certainly sufficiently re-

* "What we have to do is to convert diabetic sugar, i.e., glucose—into lactic acid."—Headland on the "Actions of Medicines," 1867, p. 218.

• British Medical Journal, Feb. 25, 1871, p. 208.

markable to demand attention, being far before anything I have hitherto been able to attain by any other method whatever.

The lactic acid I have employed has been that obtained from the druggist, fluid, not syrupy, of a spec. grav. of 1.027, and with the ordinary musty smell of sour milk. Three to four drachms in the day seem to be quite sufficient for all practical purposes; yet much more may be taken without detriment,* some cases occasionally taking as much as eight or nine fluid drachms in the day. The remedy is, however, as yet, rather too expensive to be employed in larger doses than are absolutely necessary, as it costs ten shillings a pound; a more extended application will, of course, cheapen its production.

The great advantage of this treatment is the prospect which it holds out of a comparatively speedy restoration to ordinary mixed diet, with persisting absence of sugar from the urine—of rapidity of cure, in short; and this rapidity is in itself a great encouragement to such patients steadily to persevere, in spite of the irksomeness of a diet rigidly restricted to meat, which seems certainly to be required for two or three weeks at least, after which fish, fowl, and green vegetables may be added, and other relaxations gradually and cautiously permitted, provided the case progresses favorably.—*Edinburgh Med. Jour.*

Reports of Medical Societies.

MASSACHUSETTS MEDICAL SOCIETY.

SECOND DAY'S PROCEEDINGS.

THE annual meeting of the Society was held at the hall of the Lowell Institute on Wednesday, June 5th, at 10 o'clock, A.M. The President, Dr. Samuel A. Fisk, presided.

The Secretary's report of the last annual meeting was read and accepted. The Secretary read the names of fifty-eight new members and of twenty-two deceased Fellows.

Dr. Alonzo Chapin, for a committee of the Councillors appointed for the purpose, reported the following resolutions passed by the Councillors at their meeting in October last, and moved the concurrence of the Society:—

* In particular, I have never seen any rheumatic pains produced; and if the acid be kept within proper physiological limits, it is impossible that they ever can be, otherwise we would all be rheumatic.

Resolved, That the Councillors of the Massachusetts Medical Society cordially welcome every wise attempt to raise the standard of medical education.

Resolved, That, inasmuch as the Faculty of the Medical School of Harvard University, undeterred by difficulties, or risks of personal sacrifices, have adopted a scheme of medical instruction, which has been characterized as the "boldest experiment ever tried in an American institution," and which places this medical school far in advance of any similar institution in the country—we, as Councillors of the Massachusetts Medical Society, and individually as members of the medical profession, will heartily and assiduously (in the language of the President of the University) "give the University the encouragement of our sympathy, the moral strength of our approbation, and the benefit of our advice to young men and their parents," that, as far as in us lies, this eminently wise and long-hoped-for improvement in medical education may be fully sustained, and ultimately prove a conspicuous success.

Resolved, That a copy of the foregoing resolutions, signed by the President and Secretary of this Society, be sent to the President of the University, to be communicated to the Faculty of the Medical School.

Dr. H. I. Bowditch said that in their present form, the resolutions did injustice to the Corporation of Harvard University, assuming that the whole credit of the new system belonged to the Medical Faculty, whereas, since the change, the corporation had taken charge of the financial affairs and risks of the medical school, and had incurred loss thereby. He did not wish to detract anything from what was due to the Faculty of the School, but he moved that the second resolution be amended so that just credit should be given the Corporation of the University.

After further discussion, in which it was shown that the personal risks and actual loss of at least half their former salaries had been borne by the Faculty, no one objecting to commanding the action of the Corporation, the resolutions, as amended, were unanimously concurred in by the Society.

The Treasurer's report was read and accepted.

The Secretary read the list of officers of the Society for the ensuing year.

It was voted that when the Society adjourn, it be to the first Wednesday in February next.

Dr. J. B. Treadwell read a paper on Prolonged and Excessive Physical Exertion in its relation to Cardiac Disease.

Dr. W. W. Morland read a descriptive paper on Health Resorts, particularly those in Florida and South Carolina.

Dr. John P. Reynolds read a report of his personal observations in the Lying-in Wards of Vienna, and exhibited the various obstetrical instruments in ordinary use there.

Dr. S. G. Webber exhibited a galvanic battery, the excellent features of which consisted in its portability, simplicity and power. He related some cases treated by electricity with favorable effect.

At 1 o'clock, the annual discourse was delivered by Dr. Thomas N. Stone, of Wellfleet. The address commenced with an allusion to the importance of the gathering to the members of the profession, and to the Society, as a body which was too lenient in chastening her wayward children. The message which he brought was "watch and wait." Progress was the pride of the day, and the charm of antiquity was broken. Any new departure in medicine, politics or theology wears the guise of progressive thought. Every year witnesses the birth of some new scheme of medicine. The question was whether all this boastful progressiveness was a real advance. From twenty-five years' experience in the bark-mill round of a country physician he had reached the conclusion that all active thought moves in circles. This law of circular motion controls theories and creeds and modes of thought. Every dogma and creed has its orbit. In the early history of the country medicine and theology were wedded together. They had firm faith in the infinite and none in infinitesimal. But modern thought had overthrown the old Puritan ideas, and sugar was now the staple article in theological and medical dispensaries. Nature cures both sin and sickness, and the priest and physician present nothing objectionable except the fee. An intelligent conservatism was the true basis of medical knowledge, but a conservative occupies no easy post in the onward time. The true army of medical progress, loyal to duty and truth, avoided the dangerous guide of extremists, and went slowly but steadily forward. The law of specifics had reduced medical science to a book of directions and a box of pellets. Progress in the department of therapeutics had been slow, but expectant treatment was yielding to rational treatment. Medicine was becoming a more positive something.

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At the close of the address, which was received with much favor, and for which a vote of thanks was tendered the orator, Dr. George C. Shattuck, the President elect, was introduced, and announced that Dr. Miller, of Sheffield, had offered, through the Publication Committee, a prize of \$100 for the best essay on Chemical Tests in cases of accidental poisoning, the conditions of the prize being that the essay should be really meritorious aside from its competitive excellence, and that the decision should be by the Publication Committee in accordance with established forms.

At 2 o'clock, the Society adjourned, to partake of the annual dinner in Music Hall, the Fellows to the number of nearly seven hundred passing into the hall according to their seniority. Music was furnished by Mr. Dudley Buck on the organ and by the Germania Band.

After grace had been said by Rev. Dr. F. H. Hedge, of Brookline, the chaplain of the day, an hour was pleasantly spent at the repast.

The Anniversary Chairman, Dr. R. M. Hodges, of Boston, then called the meeting to order in the following address:—

Mr. President and Fellows of the Massachusetts Medical Society:—It is not the duty of an anniversary chairman to make you an oration. He simply utters the congratulations prompted by the return of another annual gathering, and welcomes you to the dinner which lubricates the business of our anniversary meeting. This social custom, long counted one of the chief expeditives for promoting the welfare of our ancient organization, brings to a profession in whose ranks few loiterers can be found, an hour of tranquil leisure, the grateful conviviality of which stimulates good temper, dispels discontent, and draws closer the bonds of an enlightened brotherhood. Who that takes part in these festivities can fail to be elated by the noble attitude of a society, the record of whose silent influence is written in so many private memories; is engraved on the walls of every public charity; is felt in countless contributions to science, and glows in acts of generous sacrifice for the country! This assembly, which is itself a pledge of the never-tiring zeal and unabated prosperity of our fraternity, cannot need even these few words of formal welcome. You will allow me, therefore, to offer, what is always the first toast on this occasion,—

"The Massachusetts Medical Society—The recognized embodiment of those liberal principles, that wise discernment and pru-

dent counsel, which it is our vocation to cultivate and encourage."

Dr. George C. Shattuck, the president-elect, responded in an impromptu speech, referring to the honor bestowed upon him in electing him to the position of presiding officer, and expressing his determination to do all in his power for the promotion of the best interests of the Society.

The chairman then offered the following: "The welcome which has just been so heartily awarded to the president-elect finds a counterpart in the feelings of regret with which we release the retiring president from the responsibilities of office. Parting from us with the grateful remembrance of his dignified and judicious administration, he will carry with him the cordial good wishes of every Fellow of the Massachusetts Medical Society."

The response of Dr. S. A. Fisk to this sentiment was published entire in the last number of the *JOURNAL*.

The next toast was "The Commonwealth of Massachusetts—From the stormy days of the rebellion to the present time, we have been fortunate in having the medical and surgical affairs of the State entrusted to faithful advisers. Acknowledging this recognition of the patriotism and integrity of our profession, I am sure you will be gratified by my presenting to you his excellency, Gov. Washburn."

Gov. Washburn responded. He thanked the Society for the opportunity of mingling with so honorable and respectable a body of men as the medical profession, to whom the Commonwealth was so much indebted. Whatever is done to advance the science in which they were so deeply interested, whatever tended to promote the interests of the organization, all, as citizens, were interested in; for whatever might be the public feeling towards any other profession, people always had and always would have a respect for that of medicine, and liked to have a good physician, of high culture and high attainments, always near them. There was an interest which centred around the profession in its progress, its new attainments and victories, which could not be felt towards any other body of men. It was sometimes said in regard to Massachusetts that so far as position was concerned in the sisterhood of States, she was losing her influence year by year, but he for one felt that the power of any State, like the power of any community, did not depend simply upon numbers, but upon the character and the principles and the culture which composed it. He for one was al-

most willing that Massachusetts should take the background numerically, provided that Massachusetts men built the railroads of the country, Massachusetts capital developed the trade and industry of the nation, and Massachusetts brains founded the educational system, furnished the school-teachers and built up the noble men and women of the West; for so long as she did that she would exert a great influence over all the land. In conclusion, Gov. Washburn referred to the progress that the medical profession had made of late years, and contended that the State had an especial interest in anything that had a tendency to elevate and enoble it.

The chairman next proposed "The health of our absent member, Dr. Jacob Bigelow, the Nestor of our Boston physicians. Always remembered as the wise teacher, the faithful practitioner and the stanch opponent of charlatancy; long may he continue to be surrounded by the 'honor, love, obedience, troops of friends,' which have accompanied a lifetime that is still prolonged in unperceived decline."

"Auld Lang Syne" by the band.

"The Clergy of Massachusetts—The trusted and friendly counsellors of both physicians and patients; whose province it is to search the mysteries of our being in the sublime relations of life and death, and whose ministrations cheer the afflicted and comfort the dying."

The Rev. Dr. Hedge, of Brookline, responded. He feared that medical men would not accept from the clergy—however much they might be tempted to offer it—counsels other than spiritual. To give counsel was the business of both professions, but doctors managed more warily with theirs than did the clergy, for they did not give it until it was asked for. But there was a difference between the two callings in one respect—that whereas the recipients of the counsels of the clergy were called hearers (to distinguish them from doers), those who received advice from physicians were called sufferers, and he for one could testify to the correctness of that designation in times past. The two professions had some points of contact—they enjoyed in common the confidence and good will of the community; yet on the other hand some hard things were said of the clergy by some, as that they subsisted on the evils and woes of society, that they failed to follow their own prescriptions, and that they had undue influence with the other sex. As to the last charge, he would say that from present indications the other sex

seemed likely to take the obnoxious influence into their own hands. Another point of resemblance between the two was the trouble they experienced in common from the false pretences and illegitimate methods of a class of practitioners known in the medical vocabulary as quacks, for both professions were infested with them. Elsewhere they were shunned by the public, but in religion and medicine they were tolerated and even encouraged and welcomed. People who were shrewd to detect imposture or insufficiency in the market or shop, took to them kindly, and seemed to prefer them to matters genuine in physical or spiritual health. He asked a sick man in whom he felt a professional interest if he had good medical advice, and he had readily assured him that he had consulted the best trance mediums in Boston, and he was faithfully following their prescriptions. And he did faithfully follow them, added the speaker, and was faithful unto death. He would not use the word quack to denote an uneducated teacher, in the common sense of education. A preacher may not be a graduate of college or theological school, but he may have a prophetic vision, an apostolic calling, which were better than all learning. The quack in the pulpit was the man who without theological learning, or spiritual insight, or philosophic thought, or even genuine devotion, adopted the profession on the strength of certain rhetorical gifts, and whose highest test of success was rhetorical success. Such men did religion more harm than its avowed enemies. He often saw the term quack used in the medical profession as synonymous with empiric; that was a great mistake, for the profession, especially in the department of therapeutics, was greatly indebted to empiricism, and in fact was solely dependent upon it. The quack in medicine he took to be him whose practice was founded on no true knowledge of the human frame, and the laws which govern it, and who, ignorant of the laws of anatomy, of physiology, and of every branch of medical science, advertised infallible cures, undertook the healing of diseases of which he knew nothing but the name, and who obtained his patients by dint of sheer, impudent self-assertion. Nothing that had been said or could be said of such men was too severe, and certainly the educated physician was called upon in self-defence to refuse all fellowship with them, and all recognition of such as professional peers. But he urged all educated physicians not to apply the term indiscriminately, but to respect honest and faithful

investigation, and scientific minds, where even the theories of others conflicted with their own, and where it was impossible to work in conjunction with them. He rejoiced at the opportunity offered him of expressing his profound respect for the medical profession, whose duty it was not only to minister at the sick bed, but to carry forward the conquests of that science which worked relief to man's estate.

The next toast was "The Orator of the Day," and to this Dr. Stone responded by reading a poem entitled "The Cause of Rip Van Winkle's long Nap."

The secret of the Dutchman's somnolence was discovered by a Yankee, who searched under Rip's tattered vest,

"And there he found—no mighty dose
Of powder or of pill,
But vial small, and on its cork,
Decillion Pulsatill."

Dr. S. L. Abbot responded to the toast:—

Practical Medicine—A science older than civilization, powerful for good or for evil, and rich in the fruits of a good conscience to its honest votaries.

The chairman then proposed a toast in recognition of the medical corps of the army and navy: "A high standard of qualification, proved by examination, is now the rigid demand of our medical school. But the army and navy long ago learned that this was the only method to secure a staff of medical officers equal to the necessities of a time of peace as well as war. To follow their illustrious lead is to keep step with progress. We recognize the influence of their example as cheerfully as we eulogize their unfailing self-sacrifice." Brevet-Lieutenant-Colonel Warren Webster, surgeon United States Army, responded as follows:—

Mr. Chairman—It is not often the good fortune of a medical officer in the Government service to enjoy such a festival as this, or his misfortune to be called upon for a speech in the presence of a Society so learned and vigilant as yours. The routine of life at frontier military posts is not favorable to the cultivation of the studied contrivances of speech. But despite our isolation and dispersion, we are proud to remember our association with you of civil life, in a common profession and a common mission. Have we not the same early teachers? are we not strengthened by the same literature? and do we not revere the same fathers of medicine? Our duties in army life differ little from yours in civil life. Our patients, be they soldiers, their wives and children, or officers and their families,

are not exempt from ordinary diseases and injuries. Except in war, our distinctive title of surgeon is a misnomer; and even in campaigns the current ailments that claim the attention of the medical officer fall more largely to the domain of the physician than of the surgeon. To that extent needed professional knowledge is derived from medical rather than from surgical observation and experience. How completely, Mr. Chairman, has the "tide of things" reversed, in military life, the relation of these two branches of our science. In the dawn of modern army organization, professional duty was limited to the arrest of hemorrhage and the dressing of wounds. The only resource of the sick soldier was to drag himself from the line of march or the camp, and seek such precarious shelter and treatment as private or monastic charity would extend. The sovereign based his action upon an economic principle, as false as it was unchristian, that "it cost more to cure a soldier than to levy a recruit." Unable to provide for his treatment and insure his restoration to duty, and generally ignorant of his place of retreat, the army lost him forever. In this manner at the siege of Rochelle the want of adequate medical and hospital provision for the soldiers of Louis XIII. necessitated in the brief space of a few months three complete renewals of his army. With the establishment of hospitals came military medicine, and then the victims of disease and miasmatic infection received coördinate care with the sufferers from wounds. Later, the beneficent laws of hygiene revealed themselves, and physician and philanthropist, within and without the Government employ, joined hands in the presence of this blessing of science. The intelligent soldier, who so rudely but surely learned during the late war that personal uncleanliness, foul air, dampness, badly policed camping-grounds, inadequate clothing, bad cooking, and intemperance in food or drink, all are the precursors of disease, returned to the pursuits of peace a convert to the truth which sanitary science now labors to introduce into private life. The treatment of wounded soldiers under trees nearest where they fell and the segregation of the diseased in tents or rude shelters, where they recovered in greater proportion than those lodged within ceiled walls, not only taught the representatives of our profession in civil life a significant lesson, but furnished the germ of the American pavilion hospital system, which is winning commendation and adoption over the civilized world. If

I were permitted to speak of another of the bright links that are binding in stronger and stronger unity the military and civic branches of our profession, I might allude to those contributions of American medical and surgical science which Gen. Barnes, the head of the Army Medical Bureau at Washington, is giving so abundantly to this country and to Europe.

Mr. Chairman, I have been a delighted listener to the eloquence of this festival. In the future roving of a soldier's life I shall look back to this occasion with unalloyed pleasure; and especially if you will allow me to offer the following sentiment:—

The members of this Society who volunteered as medical officers in the armed struggle for the maintenance of this blessed Union of States! May an enlightened public opinion clearly appreciate how much of individual life and of public treasure they saved to this Commonwealth!

A sentiment referring to "Amherst College" called up Prof. Edward Hitchcock, of that institution, who spoke particularly of the physical culture in that college, and the necessity of medical scholarships in the institutions of learning for the benefit of poor medical students.

Dr. George W. Garland, of Lawrence, responded for the doctors of Essex County.

Dr. Pineo, of Hyannis, spoke for the "country practitioners."

At 5 o'clock, the exercises came to a close.

Medical and Surgical Journal.

BOSTON: THURSDAY, JUNE 13, 1872.

THE MASSACHUSETTS MEDICAL SOCIETY.

The recent anniversary gathering of the State Medical Society was an occasion of exceptional enjoyment. As compared with many similar meetings in former years, it must be recorded as unusually successful. The weather on the second day was very inclement, but the number of Fellows in attendance did not fall short of, but rather exceeded that at previous anniversaries; and we were especially pleased to observe so many of the older representatives of the profession present to do honor and lend dignity to the occasion.

The routine of exercises followed the re-

cently improved programme. The scientific papers presented were fully up to the recognized standard of the Society's publications, and provided a judiciously varied literary entertainment on important medical topics. The oration of Dr. Stone, of Wellfleet, gave special pleasure to his large audience. It was a sincere and eloquent appeal for a progressive and rational conservatism in medical science, showing earnest study and discriminating insight into the many scientific theories which are threatening old methods of thought, and an honesty of conviction and a logical clearness which gave the address peculiar force. Withal, there was an originality of expression and a touch of humor which served as excellent adjutants to the arguments and saved the discourse from that didactic seriousness which often characterizes annual addresses, and from the heaviness which sometimes would seem to justify Harvey's quaint appellation of "solemn oration," applied to similar discourses. In thus infusing something of the vivacious into his production, we think Dr. Stone appreciated the social purpose of the annual meeting, and recognized the fact that to the majority of those who come from year to year to enjoy this anniversary it is a real relaxation, one of the very few seasons which the physician in Massachusetts appropriates for his own personal recreation.

Our detailed report of the Society's proceedings will show that the session came to a very happy conclusion. The Music Hall festivities were worthy of the occasion. The after-dinner speeches, whether of the distinguished guests who honored the Society with their presence, or of those who, as members, responded to appropriate toasts, were an intellectual entertainment which it was no ordinary privilege to enjoy. While refraining from comment on special addresses, we may be permitted to remark that the speech of the retiring President, Dr. Fisk, a full report of which we printed in our last number, gave particular satisfaction as a dignified, seasonable and authoritative exposition of the position of the Society concerning certain matters which are of the deepest interest and importance to all its members.

Those of our readers who witnessed the dignified bearing, and who heard the felicitous speech of welcome and the well-turned toasts of the Anniversary Chairman, will hardly need to be reminded how fortunate the Society was in the appointment of that officer.

Perhaps the most conspicuous feature of this annual gathering was the harmony which prevailed from beginning to end. In the business proceedings, as well as in the social exercises, there was a degree of unity and fellowship manifested which must have been particularly gratifying to those who desire to see our time-honored Society the consistent exponent of true medical progress. The elements of discord, if any were present, were in complete abeyance, from the evident determination of the Society that the objects of its meeting should not be interfered with; showing, moreover, to even the most superficial observer its strength and inflexible purpose.

Two subjects of importance particularly tested this spirit of fellowship, and, moreover, gave a distinctive character to the session. We refer to the concurrent action of the Society in unanimously confirming the resolutions of the Councillors in support of Harvard University with reference to a better course of medical study, and the hearty and unequivocal response elicited by every allusion to the pending measures for the extirpation of "exclusive dogmas." The reception accorded to every reference to the Society's action during the year on this latter subject was no doubtful sign of the animus of the Fellows, and the younger members of the profession in Massachusetts, who for a time bore the honorable odium of having "precipitated" the Society into impolitic measures, may now congratulate themselves that they are supported by the great majority of an Association which is pledged absolutely, for the sake of its own honor and integrity and for the cause of medical progress and reform everywhere, to carry out its intentions with a will and with a unity unmistakable. To this end, the repeated demonstrations of the meeting bore no uncertain meaning, and we may add, moreover, that the election of such executive officers as those upon the

new list is a significant intimation that the Society is not indifferent to its vital interests.

We cannot conclude without felicitating the meeting on the perfect arrangements which were made on every hand for the comfort and enjoyment of those present. Great credit is due the Committee for perfecting all the details whereby many of the annoyances of former gatherings were avoided. The attention to these matters contributed much to make this annual meeting one of the most dignified and successful the Society has ever had; and some of the innovations, as, for example, the passing in to dinner according to class-seniority, must especially commend themselves to good judgment.

IS VACCINE LYMPH CURATIVE AS WELL AS PREVENTIVE?—We find in the *Lancet* for May 25th ult., a communication which appears to open to view a new field in the discussion of the beneficence of vaccination, and which indicates that, under certain conditions, the vaccine lymph may be curative as well as prophylactic of variola. In this communication, Dr. Furley, of Edinburgh, describes his method of operating, and cites cases in his own experience to show that smallpox may actually be aborted by vaccination *after the variolous eruption has appeared*. Success, however, appears to depend greatly on the amount of virus exhibited and on the manner of its introduction to the blood. Dr. Furley thinks that he found that the ordinary method of vaccination, by scarifying the arm, is ineffectual to modify the disease in adults, although it will sometimes be effectual in children. He accordingly used the subcutaneous method, at first injecting the lymph with the ordinary hypodermic syringe; but, subsequently, on finding that this process occasionally failed, by means of a hollow needle with a bore sufficiently large to admit a tube of virus. By this latter method the point of the needle is introduced "beneath the skin" and the lymph is blown, he says, from the tube "directly into the blood."

Three cases are reported in which the

treatment by vaccination gave good results, the cases being selected indiscriminately from about sixty similar ones. In one, a baby aged one month, unvaccinated, the papular eruption was over the face, hands and legs. Ordinary vaccination was practised, and in twenty-four hours the eruption had disappeared, except two papules on the face. On the third day these two papules had disappeared and a crop of four-and-twenty developed, chiefly on the head. In three days, these had gone. The vaccination itself showed no signs of taking till the tenth day, and was matured on the thirteenth.

In a second case, a girl aged 13 years, vaccinated in infancy, appeared with the papular eruption on the hands and forearms. Two tubes of lymph were injected into the forearm. After three days, there was "nothing to be seen but the inflamed areola" at the point of injection.

Case three was an adult, unvaccinated. Two tubes of lymph injected on the second day of the variolous eruption modified the disease so that a probable confluent form became discrete, and desiccated on the ninth day. There was no areola at the point of injection.

The treatment by vaccine-lymph injection is more effectual, according to Dr. Furley, the earlier it is practised, and it is more successful in the youthful than in the adult period of life. Five unfavorable cases out of sixty are reported, in three of which the prognosis was bad from the beginning and in two death was unlooked for.

We regret that Dr. Furley does not describe more particularly the method of his injection of lymph—to what depth the needle is introduced into the tissues, and whether the lymph is all injected into a single puncture. It would also be interesting, in view of certain recent experiments in hypodermic vaccination, to know more in detail the appearances presented by the vaccination itself, as modified by the method resorted to, or by the variola, or by other unusual conditions present in such cases.

EMBOLISM A POSSIBLE CAUSE OF TETANUS.

—In a contribution to the *Detroit Re-*

view of Medicine and Pharmacy, Professor McGraw traces the possible relationship between tetanus and the existence of embolus. Basing his views on the evidence of a single case in which the two conditions were concomitant, the writer intimates that, in the absence of positive pathological changes which can throw any light on the etiology of tetanus, no mere *a priori* considerations would lead us to doubt that the disturbance, caused by embolism when affecting certain vessels of the medulla oblongata or spinal cord, might cause tonic contraction of the muscles, and might end in death, without involving the mental powers or inducing paralysis; the origin of the embolus being a thrombus from an inflamed vein near the wound.

MILK AS A DIET DURING LACTATION. By R. P. HARRIS, M.D., Pennsylvania.—From a series of trials which I have very successfully made, I have become convinced of the great value of milk as a food for delicate mothers who desire to nurse their own children. By the term "delicate" I do not mean those actually diseased, or apparently inclined to tubercular or other serious organic affections, but a large class of American women in the higher walks of life who fail as nursing mothers, either because their milk is too small in quantity or deficient in nutritive elements. Such women are generally below their proper average in weight; have little, if any color in their cheeks, and eat but a moderate amount of food. There may not be any deficiency in the development of their mammary glands, although their mammae are usually smaller than they should be; but this is chiefly due to the absence of adipose deposit. All such subjects do not bear a milk diet well; and in such the plan must be abandoned, as the diet should not only agree with the mother, but be palatable, so as not to diminish her appetite for her ordinary diet. She should be able to eat her three meals as usual, and consume the requisite amount of milk in addition. There are many women who have lost all their childhood's relish for milk, just as there are sometimes young children who do the same thing, and cannot be made even to try its efficiency. And there are others who are anxious for success, and do make the trial faithfully, but are reluctantly obliged to discontinue the diet in conse-

quence, not of any disrelish, but of an inability to digest it.

Happily, there are also many who not only like the taste of milk, and can continue its use indefinitely, but who experience a wonderful degree of benefit from it, not only being able to nurse their infants, whom they would otherwise have to give to a wet nurse, or raise by hand, but greatly improved in health and strength, gaining flesh, increasing in appetite, and avoiding the ills resulting from the drain upon their system, so commonly experienced after a few months of lactation.—*Richmond and Louisville Medical Journal*.

DR. VERNEUIL ON TRACHEOTOMY BY GALVANO-CAUTERY.—In the Academy of Medicine, April 23d, M. Verneuil observed that tracheotomy, as usually practised, is a dangerous operation on account of the hemorrhages, which are so difficult to be avoided, and on account of the introduction of air into the veins. In the case of a patient, aged 38, nearly asphyxiated from tubercularization of the larynx, Verneuil performed tracheotomy by the aid of galvano-cautery. The point of the knife was heated to a dull red, and entered at the level of the cricoid ring. The instrument, moderately pressed, and slowly cutting, easily penetrated the skin for about a length of three centimetres. The knife, again heated, was carried again to the upper part of the wound, and then brought slowly down, dividing the aponeurosis and separating the thyro-hyoid muscles. A third time the knife was used in the same manner, cautiously and slowly, and then two assistants pulling the wound asunder by hooks, the eye and fingers could easily perceive the cricoid cartilage and upper rings of the trachea, which were naked and almost as visible as upon the subject. The cartilages of the two first rings were then divided by the heated knife. No blood was spilt during the operation. The operation lasted some six minutes. The patient did well, and ten days after the operation the tube was removed.—*Dublin Medical Press and Circular*.

EXTRAORDINARY FECUNDITY.—Dr. Edward Mason reported, at a late meeting of the Elmore Medical and Surgical Society, Wetumpka, Ala., a case in which "a lady bore seventeen children in nineteen years, twice giving birth to twins," and once producing four children at a birth. The latter died, but all the other thirteen survived.—*Amer. Practitioner*.

Medical Miscellany.

PRIZE ESSAYS.—The Committee of the American Medical Editors' Association, appointed on a proper subject for prize essays, have recommended the following for the prize to be awarded in May, 1873:—

"The Pathology and Treatment of Diseases of the Ovaries."

And the prize to be awarded in May, 1874, the following:—

"At what stages of Pulmonary Tuberculosis is a change of climate desirable; what are the principles which should govern us in choosing the kind of change to be made; and the best localities in North America to send patients of this class?"

The prize offered is \$100, and competition is open to all medical editors.

THE HAVANA MEDICAL STUDENTS who were imprisoned and threatened with death for alleged desecration of a cemetery, have been released by government orders.

BROWN WINDSOR SOAP.—The ordinary old brown Windsor soap of commerce is not, it is stated, the purified soap, colored with caramel, which made the title famous, but brown and imperfectly defecated bone-grease, which retains its dark color and of which the bad odor is concealed by perfume. A gentleman, writing under the initials "W. W." in *Nature*, gives the following account of its effects:—

"I have, while using such shaving soap, thrice suffered from eczema of the face. On the first occasion, I derived no benefit from treatment by the two most celebrated dermal surgeons in London; and at last the disease went away of itself, after giving up shaving for a time. I had by me a quantity of this brown soap, and, through inadvertence, took to using it again, for a time with out effect; but when dry and hot weather came, with it came a recurrence of the skin-disease, which also again, after some months of discomfort, went away. Curious to make sure whether or not the soap was the real cause, I a third time employed the soap deliberately to see if the eczema were due to it. I was in excellent health, and in about three weeks I found the disease re-established, so that I think the soap must be viewed as found guilty. Good white unscented curd-soap is now my resource, and with no ill-effects.—*Brit. Med. Jour.*

THE USES OF THE UVULA.—In an article discussing the anatomical relations and the functions of the uvula (*Lancet*, Feb. 10th, 1872) Sir Duncan Gibb summarizes the latter as follows:—

"1. It acts as a sentinel to the fauces in exciting the act of deglutition when anything has to be swallowed. 2. It compresses the soft palate and holds its posterior free border firmly against the wall of the pharynx in deglutition, so that nothing can pass upwards. 3. It modifies speech in the production of loud declamation and the guttural forms of language by lessening the pharyngo-nasal passage when it acts as an elevator. 4. Its ele-

vating power is increased to the most extreme degree in the highest ranges of the singing voice, and is very moderately exerted in the lower ranges. 5. Therefore in its uses, deglutition and vocalization are the functions that are intimately associated with the uvula, and both become impaired more or less if it is destroyed, wholly removed or seriously injured."—*Half-Yearly Abstract of the Medical Sciences.*

THE MEDICAL EDUCATION OF WOMEN.—Miss Jex-Blake delivered a lecture to a large audience of ladies and gentlemen in St. George's Hall, London, on the Medical Education of Women, but chiefly with reference to the events which have created so much attention in their attempt to secure medical education at Edinburgh. Lord Shaftesbury was in the chair. The lecturer treated her subject in a clear, temperate and concise manner, and was frequently applauded.—*British Med. Jour.*

CORRECTION.—In the JOURNAL for June 6th, page 362, for "bulleaux" read *bulleux*; and on page 383, line 33, for "marked" read *masked*.

TO CORRESPONDENTS.—Communications accepted:—A Case of Belladonna Poisoning.—A Case of Peritonitis with singular Complications.—On the Value of Alcohol as a Nutritive Agent.—Contributions to Practical Surgery.—A Case of Scalping.

PAMPHLETS RECEIVED.—The Teeth—Natural and Artificial. By J. W. White, Philadelphia. Pp. 36.—Observation tendant à démontrer l'Efficacité de l'Emploi du Sulfate de Quinine, comme Succédané du Scigle Ergoté. Par M. le Docteur Bonqué, Membre Titulaire.

DIED.—On board steamship New York, en route to Bremen, Dr. John Dole, of Amherst, Mass., aged 33.

Deaths in fifteen Cities and Towns of Massachusetts, for the week ending June 8, 1872.

Cities and Towns.	No. of Deaths.	Lynn	9
Boston	130	Fitchburg	2
Charlestown	7	Taunton	3
Worcester	19	Newburyport	7
Lowell	15	Haverhill	3
Milford	4		
Chelsea	4		
Cambridge	18		
Salem	12	Consumption	50
Lawrence	7	Scarlet fever	20
Springfield	2	Pneumonia	15

Boston reports five deaths from smallpox.

GEORGE DENEY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, June 8th, 130. Males, 62; females, 68. Accident, 4—abscess, 1—apoplexy, 1—asthma, 1—Inflammation of the bowels, 3—disease of the bowels, 1—bronchitis, 3—inflammation of the brain, 1—disease of the brain, 1—cebro-spinal meningitis, 3—cancer, 2—cyanosis, 3—consumption, 23—convulsions, 6—debility, 2—diarrhoea, 1—dropsy, 1—dropsy of brain, 4—diabetes, 1—diphtheria, 1—erysipelas, 1—scarlet fever, 8—typhoid fever, 1—disease of the heart, 1—haemorrhage, 1—jaundice, 1—disease of the kidneys, 2—disease of the liver, 1—congestion of the lungs, 3—Inflammation of the lungs, 6—malaria, 5—old age, 3—paralysis, 2—pleurisy, 1—puerperal disease, 1—pyæmia, 1—quinsy, 1—rheumatism, 2—scrofula, 1—smallpox, 5—syphilis, 1—teeth, 1—tumor, 1—Whooping cough, 2—unknown, 5.

Under 5 years of age, 49—between 5 and 20 years, 10—between 20 and 40 years, 33—between 40 and 60 years, 26—above 60 years, 12. Born in the United States, 89—Ireland, 33—other places, 8.